Sociolinguistic variation of two-handed signs in French Belgian Sign Language: Weak drop as a stable reduction phenomenon

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Sociolinguistic variation of two-handed signs in French Belgian Sign Language (LSFB)

WEAK DROP as a stable reduction phenomenon

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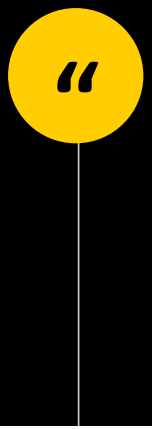
Two-handed signs

No Weak Drop

Weak Drop

POSSIBLE

There is a "growing observation across unrelated sign languages that ***a phonological shift is occurring over time*** *from two- to one-handed signs".*
(Stamp et al. 2015: 168)



Is there a change towards one-handed forms in LSFB?

- Looking at all two-handed signs of a given sign language
- Semi-automatic method of extraction of one-handed and two-handed forms
- In a yet understudied sign language

Signing styles and phonetic reduction

Towards a description of French Belgian Sign Language registers. Phonological aspects and phonetic variations (Paligot 2018)

- Sign lowering
  - Weak Hand Lowering
  - Lowering of forehead located signs
- Weak Drop

Vers une description des registres de la langue des signes de Belgique francophone (LSFB)

Aspects phonologiques et variations phonétiques

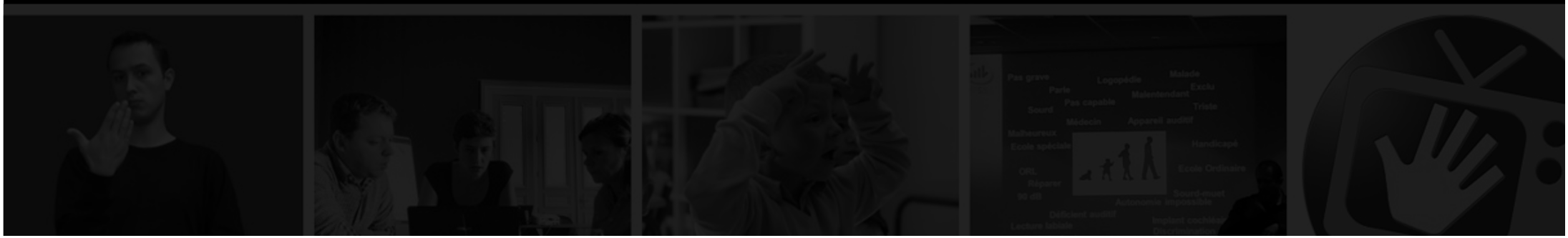
Thèse déposée par Aurore PALIGOT
en vue de l'obtention du grade de
Docteur en Langues et Lettres
19 mars 2018

Jury : Laurence MEURANT (promotrice), Jean GIOT,
Onno CRASBORN, Mieke VAN HERREWEGHE, Adam SCHEMBRI

French Belgian Sign Language (LSFB)

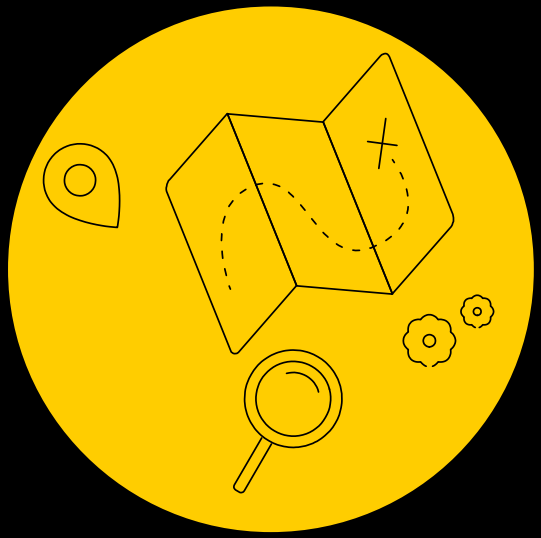
Starting point LSFB seems to be going through an accelerated development that includes the development of a **formal/informal register difference**

Vocal Languages Informal styles contain more reductions than formal styles (e.g. van Son & Pols 1999; Hanique et al. 2013, Ernestus et al. 2015)



Background

1

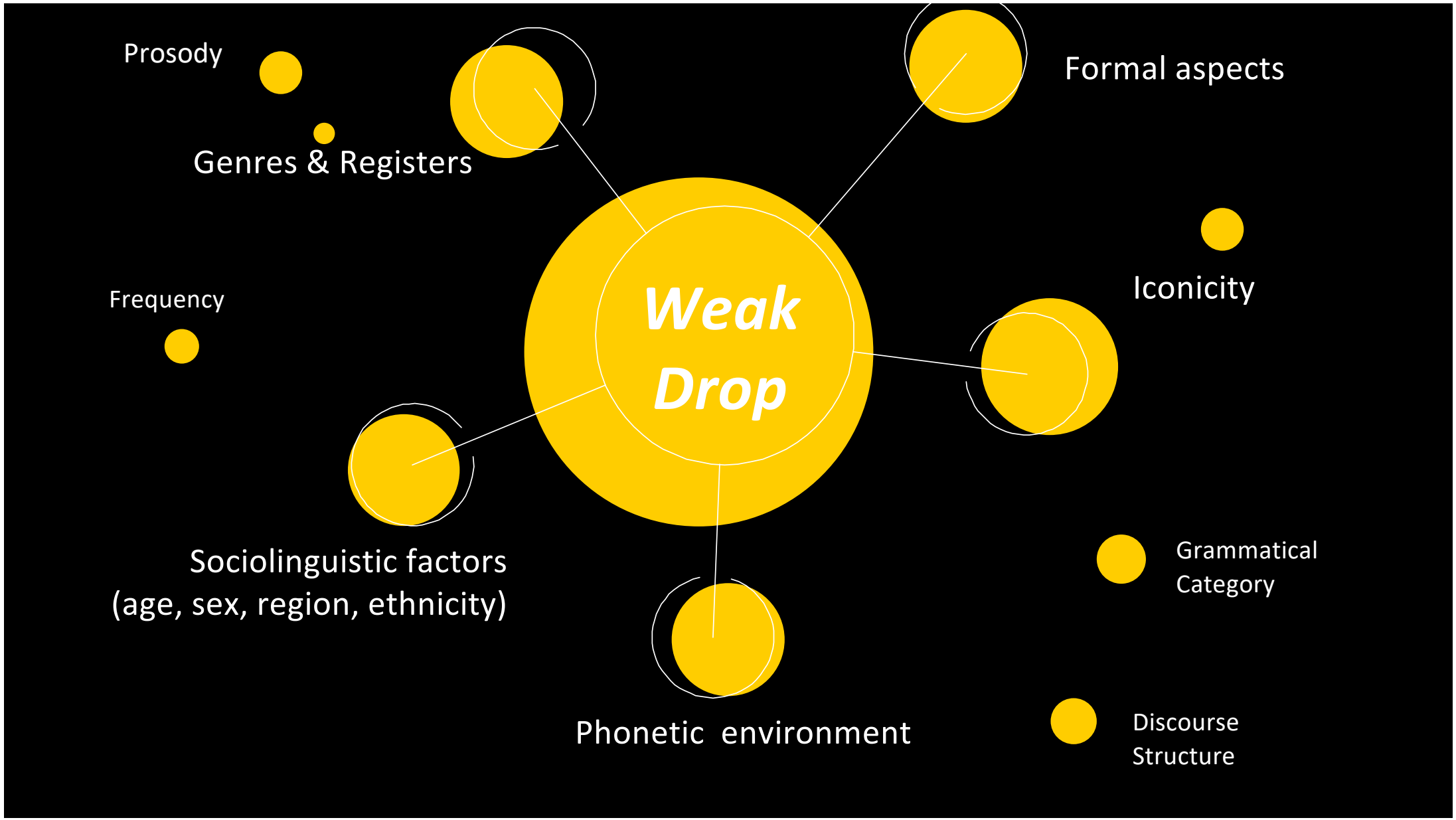


Phonetic reductions

"**Phonetic reduction** occurs in the course of **normal language production**, when instead of producing a carefully articulated form of a word, the language user produces a **less clearly articulated form**." (Tyrone & Mauk 2010)

1. Alterations
2. Deletions
3. Reductions of contrasts

14 - 20 % of reduced forms in conversational data (Warner 2011)


Prosody
Genres & Registers
Formal aspects
Frequency
Weak
Drop
Iconicity
Sociolinguistic factors
(age, sex, region, ethnicity)
Grammatical
Category
Phonetic environment
Discourse
Structure

a Formal aspects

Weak Drop is linked to the amount of phonological information that is lost in the realisation of one-handed variants (Battison 1974; Brentari 1995; van der Kooij 2001; Paligot, van der Kooij & Crasborn to come)

Same amounts of Weak Drop in symmetrical and asymmetrical signs:

Symmetrical signs : Contact and alternating movement disfavours WD

Asymetrical signs : Weak B handshape favours WD; contact disfavours WD

b Iconicity

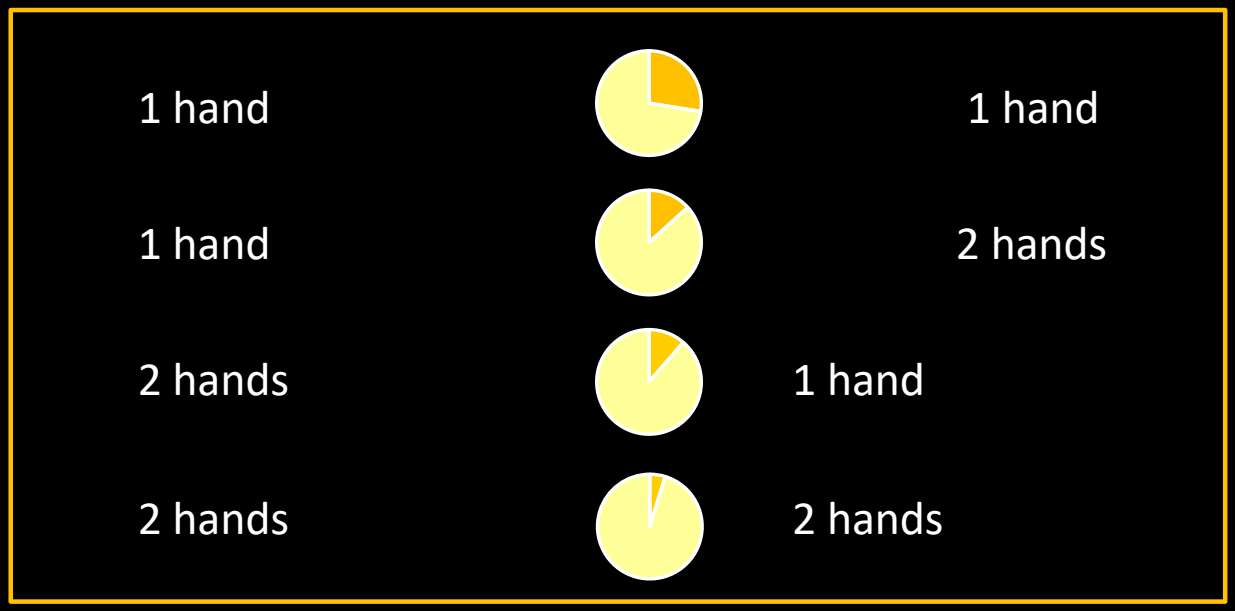
When the signs refer to **concepts that involve two objects** or referents, Weak Drop is less likely to occur (Van der Kooij 2001, Paligot, Van der Kooij & Crasborn to come).

Disfavour WD: Body parts, two entities, outline
Favour WD: Figure-ground

Body parts	Two entities	Figure-Ground	Outline
			
HANDICAP	CONSIDER	READ	GROUP

C Phonetic environment

Weak Drop is more likely to occur when a two-handed sign is surrounded by one-handed forms (Nishio 2009, Paligot et al. 2016).



d Sociolinguistic factors

Phonological change

Frishberg (1975)
OLSF, ASL, head signs
Lucas et al. (2007)
(A)ASL, Type 1 signs
McCaskill et. al (2011)
AASL, Type 1 signs
McKee et al. (2011)
NZSL, Numeral signs
Stamp et al. (2015)
BSL, Numeral signs

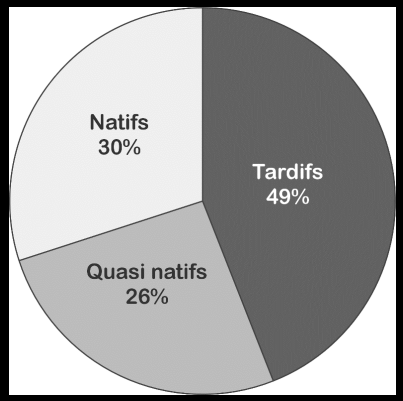
e Genre and registers

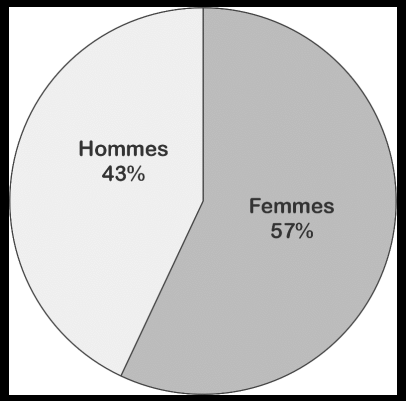
Weak Drop is thought to be more common in informal and spontaneous registers (ex. Battison 1974, van der Kooij 2001, McCaskill et al. 2011), but there is no strong evidence to support that claim to date.

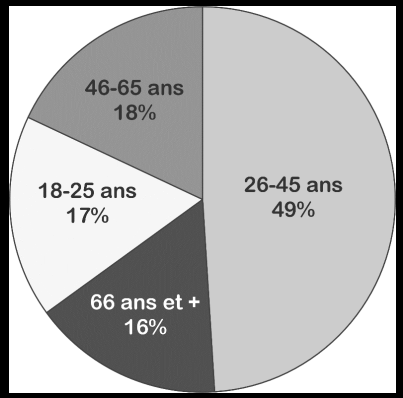
In vocal languages, informal styles often contain more reductions than formal styles (e.g. van So vn & Pols 1999; Hanique et al. 2013, Ernestus et al. 2015).
Those associations are context-dependent and sociologically determined (Laks 2000).

Study

II







Corpus LSFB (Meurant 2015)
www.corpus-lsfb.be

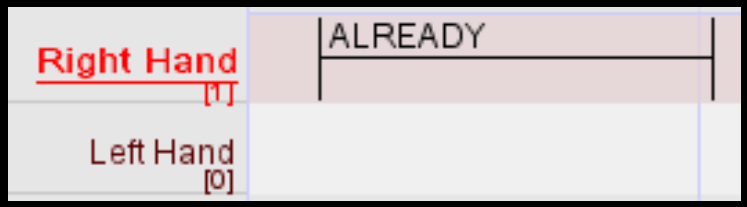
12 hours
of annotated videos

2 816 signs
stored in Lex-LSFB

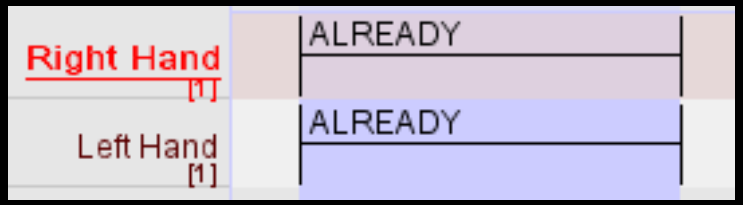
76 764 tokens
of standard signs

Corpus LSFB (Meurant 2015)
www.corpus-lsfb.be

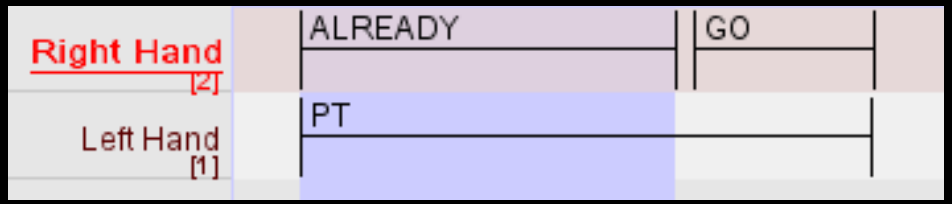
Method

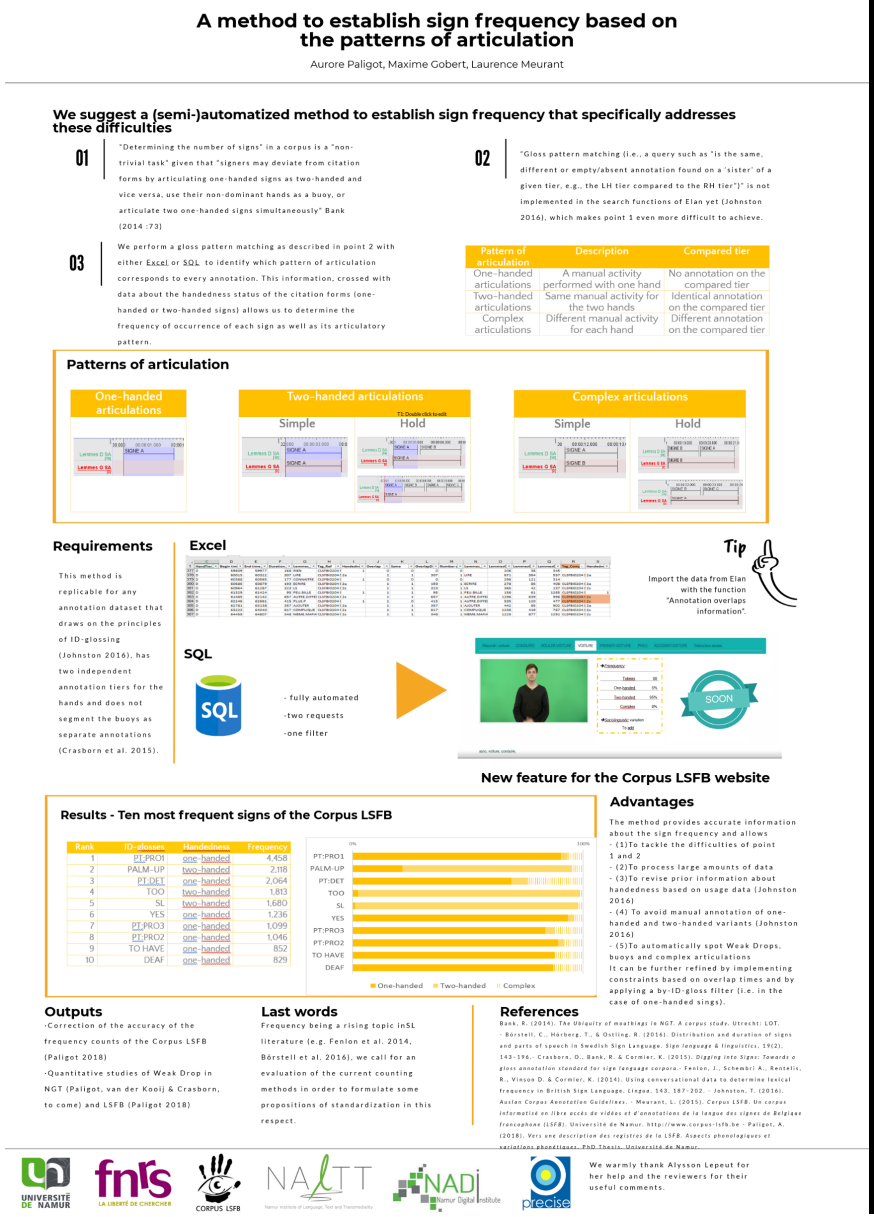


Weak Drop



No Weak Drop

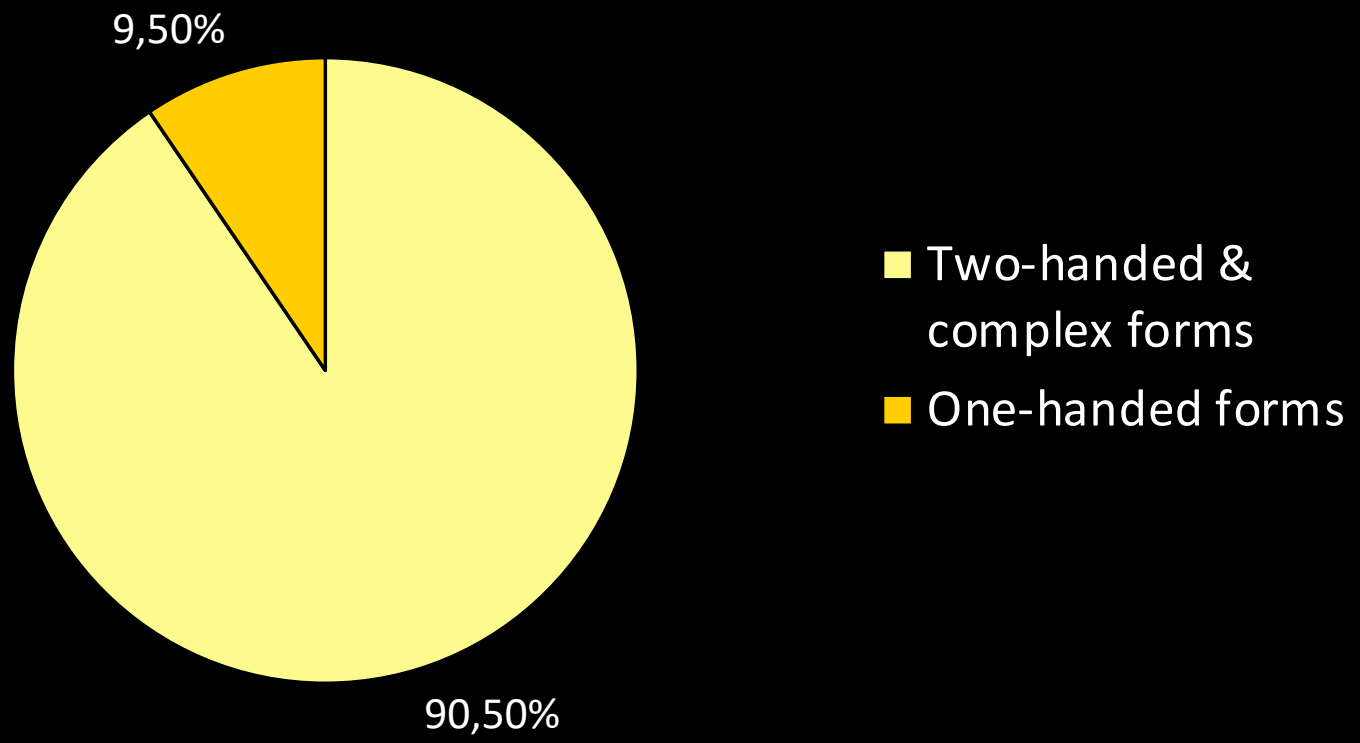




A method to establish sign frequency based on the patterns of articulations (Paligot, Gobert, Meurant 2018)

- Fully automatized in SQL
- Sign frequency
- Patterns of articulations

➔ No need to manually annotate one-handed and two-handed variants anymore! (Johnston 2016)



Weak Drop in the Corpus LSFB

Weak drop in the Corpus LSFB

Genres

1. **Narration (-)**
2. Description
3. Argumentation
4. Explanation
5. **Conversation (+)**

Preparedness

Prepared (-) vs. unprepared (+)

Interactivity

Interactive vs. non interactive

Signers' profiles

1. **Sex (men (+), women(-))**
2. Age (18-25, 26-45, 46-65, 66+)
3. Acquisition (native, near-native, late)

Frequency

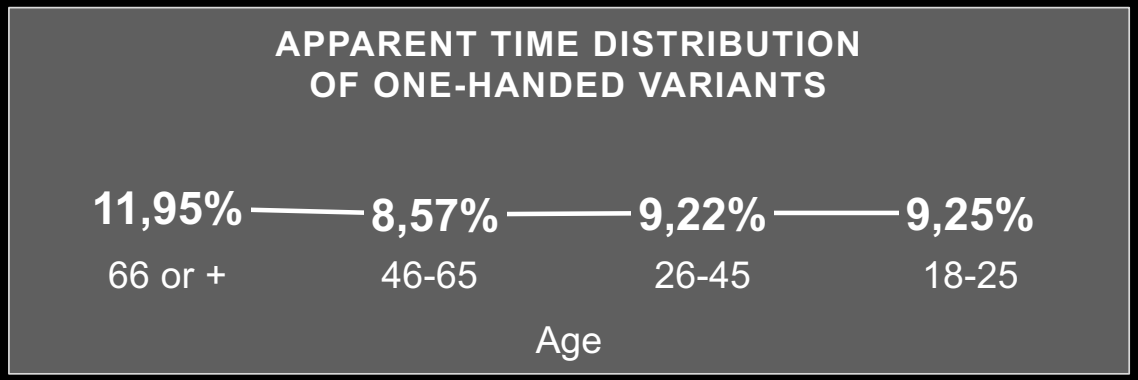
Very frequent signs (+) vs. Less frequent signs (-)

Mixed effect model
(lme4; Winter 2013)

Apparent time construct

« The basic assumption underlying apparent time […] is that differences among generations of adults mirror actual diachronic developments in a language when other factors […] are held constant. » (Bailey et al. 1991)

- Apparent time vs. real time
- Change in progress vs. stable variation



Conclusions

1. Weak Drop is more frequent in informal, spontaneous registers

First study to actually measure it!

The one-handed form is less careful than the two-handed form

Women tend to favor the two-handed forms because of their sensitivity to linguistic prestige (cfr Labov 1960)

We observe cross-linguistic differences (ASL and AASL, McCaskill et al 2011)

2. Variation of one-handed and two-handed forms is a stable phenomenon in LSFB

According to the apparent time hypothesis (Bailey 2002), a variation within different age groups may be read as an ongoing language change.

No difference between the generations of signers was observed.

=> No change towards one-handed forms in LSFB

The argument is strengthened by the men's preference for the reduced forms. This was shown to be an indicator of stable variation pattern in several vocal languages (Labov 1990).

We observe cross-linguistic differences (ASL, AASL, BSL, NZSL, Auslan)

Notes!

Cross linguistic differences: change

In LSFB, stable phenomenon vs. evolutive phenomenon in ASL (Lucas et al. 2001); AASL (McCaskill et al. 2011); NZSL (McKee et al 2011); BSL (Stamp et al. 2015) in sub-groups of signs.

Cross linguistic differences : value

In LSFB, WD=informal vs. in AASL, two-handed form= street language (McCaskill et al. 2011).

Further comparison between global and local variation phenomena

All two-handed signs vs. sub-groups of two-handed signs (ex. head signs in ASL and LSFB)

Contacts

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Corpus

www.corpus-lsfb.be

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Registres de langue – Variable d'application : articulations à une main

Groupe de facteurs	*Facteur*	*Facteur de pondération Rbrul*	*Pourcentage d'articulations à une main*	*Nombre d'occurrences*
Spontanéité	Semi-spontané	0.537	9,84%	25 403
	Planifié	0.463	8,14%	8 083
Genre discursif	Explication	0.536	10,21%	7 015
	Conversation	0.519	8,95%	9 303
	Argumentation	0.496	8,78%	8 640
	Description	0.49	12,15%	1 646
	Narration	0.46	9,44%	6 882
Interactivité	Interactif	/	9,16%	20 551
	Semi-interactif	/	9,86%	12.35

Données sociolinguistiques – Variable d'application : articulations à une main

Groupe de facteurs	*Facteur*	*Poids Rbrul*	*Pourcentage d'articulation à une main*	*Nombre de tokens pour le groupe de facteurs*
Sexe	Masculin	0.557	10,47%	18 221
	Féminin	0.443	8,19%	15 265
Age	18-25 ans	/	9,25%	5 966
	26-45 ans	/	9,22%	22 032
	46-65 ans	/	8,57%	2 391
	66 ans ou +	/	11,95%	3 097
Profil d'acquisition	Natif	/	10,00%	13 466
	Quasi-natif	/	9,13%	10 814
	Tardif	/	8,95%	9. 206